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Appeal Brief - Patents, Commissioner of Patents
P.O. Box 1450 Alexandria VA 22313-1450, on

2/27/04

Jan Hostasa

JAN HOSTASA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application

JEFFREY A. TILTON ET AL.

Ser. No. 09/939,284

Filed: August 24, 2001

For: **TRIM PANEL INSULATOR FOR A VEHICLE**

:
:
:
:
: Examiner: Wachtel, Alexis A.
:
: Group Art Unit: 1764
:

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appeal is taken from the rejection of claims 1 and 3-13 made final in
the Office Action mailed on August 27, 2003 and maintained in the
Advisory Action of January 16, 2004. No claim has been allowed. A
timely Notice of Appeal was filed on January 27, 2004 with the appropriate
Extension of Time.

I. REAL PARTY IN INTEREST

The inventors assigned 100% of their interest in the present invention to Owens-Corning Fiberglass Technology, Inc. ("Appellant"), an Illinois corporation having a place of business at 7734 West 59th Street, Summit, Illinois 60501.

II. RELATED APPEALS AND INTERFERENCES

Appellant knows of no other appeals or interferences which will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF THE CLAIMS

Claims 1 and 3-13 remain pending in the application and are the subject of this appeal.

Claims 1 and 3-7 are finally rejected under 35 U.S.C. §112, second paragraph for allegedly being indefinite.

Claims 1 and 3-7 are also finally rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent 6,008,149 to Copperwheat.

Claims 8-13 are finally rejected under 35 U.S.C. §102(b) as allegedly being anticipated by U.S. Patent 5,501,898 to Fottinger et al.

IV. STATUS OF AMENDMENTS

The form of the claims for purposes of this appeal is as presented in the Amendment and Request for Reconsideration filed on November 26, 2003 and subsequently entered into the record. For the convenience of the Board, a copy of the claims is included in an appendix forming the final section of this Appeal Brief.

V. SUMMARY OF THE INVENTION

Acoustical and thermal insulators and liners for application to vehicles are well known in the art. Such insulators typically rely upon both sound absorption, i.e. the ability to absorb incident sound waves and transmission loss, i.e. the ability to reflect incident sound waves, in order to provide sound attenuation. They also rely upon thermal shielding properties to prevent or reduce the transmission of heat from various heat sources to the passenger compartment of the vehicle.

In the past, engineers have generally found it necessary to construct such liners from a laminate incorporating (a) one or more layers to provide the desired acoustical and thermal insulating properties and (b) one or more additional layers to provide the desired mechanical strength and rigidity which allow simple and convenient installation as well as reliable and proper functional performance over a long service life.

While a number of adhesives, adhesive webs and binding fibers have been specifically developed over the years to secure the various layer of laminates together, laminated shields and insulators have an inherent risk of delamination and failure. It should be appreciated that the potential is significant when one considers the harsh operating environment to which the shields and insulators are subjected.

Many shields and insulators are located near and/or are designed to shield high heat sources such as engines, transmissions and exhaust systems. As a result the shields and insulators are often subjected to temperatures in excess of 200 degrees F which have a tendency to degrade the adhesives and binders over time.

Additionally, many shields and insulators are subjected to water from the surface of roadways which has a tendency to be drawn by capillary

action into and along the interface between the layers of the shields and insulators. Such water may have a deleterious effect upon the integrity of the adhesive layer over time. This is particularly apparent when one considers that water may also include in solution salt or other chemicals such as oil and petroleum products from the roadway which are corrosive and destructive.

The present invention relates to a trim panel insulator incorporating a single, multidensity nonlaminated acoustical and thermal insulating layer of polymer fiber that provides the desired acoustical and thermal insulating properties and meets mechanical strength and rigidity requirements while eliminating the risk of delamination. This represents a significant advance in the art.

Four different embodiments of the present invention are illustrated in the drawing figures of the instant patent application. Those drawing figures are reproduced below for the convenience of the Board.

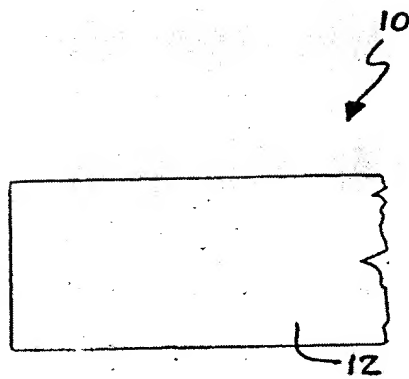


Fig. 1

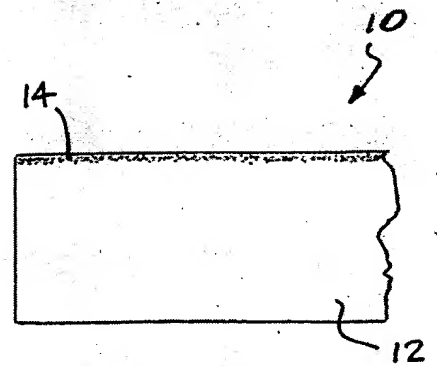


Fig. 2

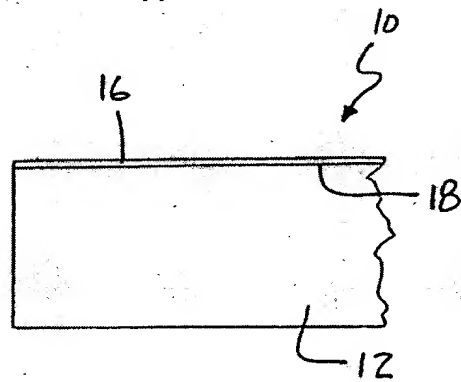


Fig. 3

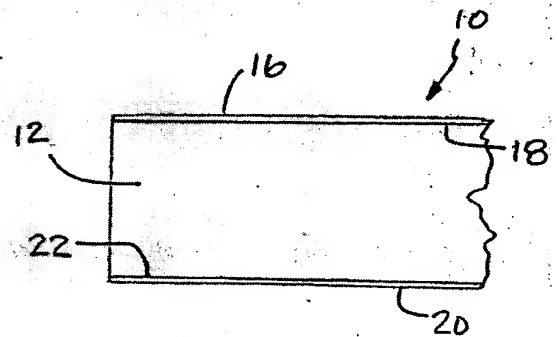


Fig. 4

Figure 1 illustrates a simple trim panel insulator incorporating a single, multidensity nonlamineate acoustical and thermal insulating layer 12 of polymer fiber. This embodiment is described in the text of the application at, for example, page 4 lines 8-34.

Figure 2 illustrates an insulator 10 comprising the nonlamineate acoustical and thermal insulating layer 12 and a nonlamineate or unitary skin 14 all of the same polymer fiber. This particular embodiment is described in the specification at, for example, page 5 lines 1-27.

Figure 3 illustrates an insulator 10 including the nonlamineate acoustical and thermal insulating layer of polymer fiber 12 having a first facing layer 16 over a first face 18 of the acoustical and thermal insulating layer. This embodiment of the invention is described in the text at, for example, page 5 line 28 to page 6 line 3.

Figure 4 illustrates a shield or insulator 10 comprising a nonlamineate acoustical and thermal insulating layer 12 of polymer fiber or a combination of polymer fiber and fiberglass, a first facing layer 16 and a second facing layer 20. This embodiment of the invention is described in the text at, for example, page 6 lines 4-35.

As presently presented, claim 1 reads on a trim panel insulator 10 for a vehicle consisting essentially of a single, multidensity nonlamineate acoustical and thermal insulating layer 12 of polymer fiber selected from a group consisting of polyester, a combination of polyester and fiberglass, polypropylene and any mixtures thereof. See, for example, page 4 line 8 to page 5 line 27.

Dependent claim 3 further provides that the trim panel insulator includes a first facing layer 16 over a first face 18 of the acoustical and thermal insulating layer 12. That first facing layer is constructed from a

material selected from a group consisting of polyester, rayon, polyethylene, polypropylene, ethylene vinyl acetate, polyvinyl chloride, fibrous scrim, metallic foil and mixtures thereof. See, for example, page 5 line 28 to page 6 line 3.

Claim 4 provides that the insulator includes a second facing layer 20 over a second face 22 of the acoustical and thermal insulating layer 12. See, for example, page 6 lines 4-35.

Claim 5 provides that the acoustical and thermal insulating layer 12 of the insulator 10 has a weight per unit area of between about 20-130 g/ft². See, for example, page 4 lines 22-23.

Claim 6 provides that the acoustical and thermal insulating layer 12 and the first facing layer 16 are approximately the same color. Similarly, claim 7 provides that the acoustical and thermal insulating layer 12, the first facing layer 16 and the second facing layer 20 are all approximately the same color. See, for example, page 6 lines 14-28.

Independent claim 8 reads on a trim panel insulator 10 comprising a single, nonlamine acoustical and thermal insulating layer 12 of polymer fiber selected from a group consisting of polyester, a combination of polyester and fiberglass, polypropylene and any mixtures thereof where the panel also includes a nonlamine skin 14 of the same polymer fiber along at least one face of the acoustical and thermal insulating layer 12. The nonlamine skin has a higher density than the remaining portion of the insulating layer 12. See, for example, page 5 lines 1-27.

Dependent claim 9 further provides that a first facing layer 16 is provided over the first face 18 of the acoustical and thermal insulating layer 12. That first facing layer is constructed from a material selected from a group consisting of polyester, rayon, polyethylene, polypropylene, ethylene

vinyl acetate, polyvinyl chloride, fibrous scrim, metallic foil and mixtures thereof. See, for example, page 5 line 28 to page 6 line 3.

Claim 10 provides that the insulator 10 includes a second facing layer 20 over a second face 22 of the acoustical and thermal insulating layer 12. See, for example, page 6 lines 4-35.

Claim 11, like claim 5, refers to the acoustical and thermal insulating layer 12 having a weight per unit area of between about 20-130 g/ft². See, for example, page 4 lines 22-23.

Claims 12 and 13 correspond to claims 6 and 7 but depend from claim 11 rather than claim 5. These claims refer to the coloring of the acoustical and thermal insulating layer 12, the facing layer 16 and the facing layer 20. See, for example, page 6 lines 14-35.

VI. THE ISSUES

The Board must determine whether claims 1 and 3-7 are indefinite under 35 U.S.C. § 112, second paragraph. The Board must also determine whether claims 1 and 3-7 are anticipated by U.S. Patent 6,008,149 to Copperwheat. Finally, the Board must determine whether claims 8-13 are anticipated under 35 U.S.C. § 102(b) by U.S. Patent 5,501,898 to Fottinger et al.

VII. GROUPING OF CLAIMS

Independent claim 1 and dependent claims 3-7 stand or fall together. Independent claim 8 and dependent claims 9-13 stand or fall together.

VIII. ARGUMENT

A. Claims 1 and 3-7 meet the requirements of 35 U.S.C. § 112, second paragraph.

The Appellant fails to understand the basis for the rejection of claims 1 and 3-7 under 35 U.S.C. § 112, second paragraph. In the Advisory Action of January 16, 2004, the Examiner maintains this rejection of claims 1 and 3-7 arguing:

The specification plainly discloses that a high density skin 14 adds structural integrity to the resulting composite (specification, pp 5, lines 13-18). Therefore, it cannot be said that the high density skin(s) does no (sic) materially affect the basic and novel characteristic(s) of the claimed invention.

As drafted, claim 1 references “a single, multidensity nonlamineate acoustical and thermal insulating layer of polymer fiber” While this language is not specifically limited to embodiments incorporating a high density skin 14 (see, for example, the skinless embodiment of Fig. 1), it does read on embodiments including such a skin (see, for example, the Fig. 2 embodiment). Further, this is absolutely consistent with the description wherein it is noted at page 5 lines 5-7:

The layer 12 also includes a relatively high density, nonlamineate or unitary skin 14 of that polymer fiber along at least one face thereof.

Thus, it should be appreciated that claim 1 as drafted covers embodiments including a skin 14. This would also be true of claims 3-7 which depend from claim 1. Consequently, the Examiner's reasoning

regarding claim 14 fails to support a rejection of these claims under 35 U.S.C. §112, second paragraph.

Further, it is not understood how this reasoning is in any way relevant to claims 3-7. In the Office Action of August 27, 2003, the Examiner stated that:

Claim 1 makes use of "essentially of" language improperly failing to include facing layers per claims 3, 4, 6 and 7 in the independent claim.

It is not understood how the Examiner's comments in the Advisory Action respecting the significance of the skin 14 have any relevance to claims 3, 4, 6 and 7 which by the Examiner's own words relate to the facing layers identified as 16 and 20 in the present specification. How can the significance of the function of the skin 14 have any bearing on the Examiner's requirement to include the facing layers 16 and 20 in independent claim 1?

In considering the propriety of the rejection under 35 U.S.C. §112, second paragraph, the Examiner must consider the present specification as a whole. Four different embodiments are described and illustrated (see Figs. 1-4). Claim 1 reads on all four embodiments. The distinguishing feature for purposes of patentability is the provision of "a single, multidensity nonlamineate acoustical and thermal insulating layer of polymer fiber" shown as 12 in Figures 1, 3 and 4 and 12 and 14 in Figure 2. Claims 3 and 6 reference the first facing layer 16 and cover the embodiment illustrated in Fig. 3. Claims 4 and 7 reference the second facing layer 20 and cover the embodiment illustrated in Fig. 4. Of course, the Fig. 3 and 4 embodiments also include the single, multidensity nonlamineate acoustical and thermal

insulating layer 12. Thus, the claims are all consistent and cover the four illustrated embodiments. The use of the transitional phrase “consisting essentially of” does nothing to change this fact.

As stated in MPEP Section 2173.02:

The test for definiteness under 35 U.S.C. 112 second paragraph is whether “those skilled in the art would understand what is claimed when read in light of the specification.” *Orthokinetics v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986).

Thus, it should be appreciated that in the instant case if one skilled in the art is able to ascertain the meaning of the term “nonlaminated” in claim 1 in light of knowledge in the field and the specification, 35 U.S.C. § 112, second paragraph is satisfied. The specification clearly indicates that the basic and novel characteristic of the invention, including all four illustrated embodiments, is the “single, multidensity nonlaminated acoustical and thermal insulating layer of polymer fiber.” As noted on pages 2 and 3 of the specification, the nonlaminated nature of this insulating layer avoids the inherent risk of delamination and failure characteristic of prior art, laminated trim panel insulators.

With this background and description of the basic and novel characteristics of the invention in the specification, there can be no question of the metes and bounds of claim 1 when interpreting that claim with the transitional phrase “consisting essentially of”: that is, the claim only covers and reads on a trim panel insulator incorporating an acoustical and thermal insulating layer of polymer fiber that is both multidensity and nonlaminated in combination. Thus, a multidensity trim panel insulator incorporating multiple layers of material all having different densities is not covered by

claim 1. It is the presence of multiple densities in a single, nonlaminated layer of a trim panel insulator that establishes the patentability of claim 1 over the prior art.

Similarly, the metes and bounds of dependent claims 3-7 are clearly defined. Claim 3 reads on an insulator including a first facing layer over a first face of a single, multidensity nonlaminated acoustical and thermal insulating layer. The facing is not a part of the multidensity acoustical and thermal insulating layer. This claim reads on trim panel insulators incorporating a multidensity, laminated, acoustical and thermal insulating layer of polymer fiber in conjunction with a facing layer. The claimed structure and limits of the claim are both clear. The basic and novel distinguishing feature of claim 1 also remains constant in claim 3 but with the addition of a single, separate facing layer.

The metes and bounds of claims 4-7 may be similarly determined and are just as clearly and plainly defined. In claim 4, there is simply another structure, a second facing layer to be considered. Still, the basic and novel characteristic of a multidensity, nonlaminated acoustical and thermal insulating layer of polymer fiber is still present.

While claims 5-7 add further limitations, the same basic and novel characteristic is present. It is therefore clear that claims 1 and 3-7 meet the requirements of 35 USC § 112, second paragraph and that this rejection is improper and should be withdrawn.

B. Claims 1 and 3-7 are in no way anticipated by U.S. Patent 6,008,149 to Copperwheat.

Claim 1 reads on a trim panel insulator consisting essentially of a single, multidensity nonlaminated acoustical and thermal insulating layer of

polymer fiber selected from a group consisting of polyester, a combination of polyester and fiberglass, polypropylene and any mixtures thereof. The basic and novel characteristic of the invention as described in this claim is the provision of an acoustical and thermal insulating layer that is both multidensity and a nonlaminar. As a consequence, the trim panel insulator includes areas of relatively high density and areas of relatively low density where appropriate in order to optimize acoustical and thermal insulation performance while simultaneously maintaining the necessary strength and structural integrity to aid in installation and allow a long service life. Advantageously, this is achieved without suffering from the inherent risk of delamination and failure characteristic of prior art laminated liners. As such, the present invention as set forth in claim 1 is the antithesis of the liner disclosed in the Copperwheat patent.

More specifically, at column 2 lines 5-45, the Copperwheat patent states:

The non-woven fibrous composite in accordance with the present invention possesses at least two functional layers, all of which are made of the same non-woven thermoformable polymeric chemical substance or material. . . . The polymeric chemical substance selected is fabricated into two different fabrics having different mechanical and/or other physical properties. At least one fabric is a formable fabric, which upon final molding under heat and/or pressure, possesses a relatively high degree of strength and stiffness. The other fabric is a variable compression fabric. . . which is capable of assuming variable thickness and density when subjected to molding under heat and/or pressure. . . . The term "composite", as used herein includes any stack of successive layers whether or not cohesion between or among such layers has been enhanced by chemical and/or physical means. Cohesion of adjacent layers of the composite can be enhanced by such techniques as spray powder bonding, use of liquid

dispersion/solutions, stitch bonding, flame lamination, use of an intermediate adhesive fabric between functional layers, and mechanical needlepunching, all of which are well known to those versed in the art.

The Copperwheat patent explicitly teaches and describes utilizing multiple laminated layers of material in order to provide different densities of material and the desired insulating and structural properties. Such laminated materials must have interfaces between the layers that are prone to delamination. In contrast, the present invention explicitly claims a trim panel insulator including a single nonlaminated and multidensity layer that by definition avoids the problem of delamination. The standard for lack of novelty or “anticipation” is one of strict identity. As stated by the Court of Appeals for the Federal Circuit in *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379, 231 USPQ 81, 90 (Fed. Cir. 1986), “it is axiomatic that for prior art to anticipate under section 102 it has to meet every element of the claimed invention. . . .” Clearly, the Copperwheat patent fails to meet this well established standard.

The difference between the invention set forth in claim 1 and the invention disclosed in the Copperwheat patent is as plain as the difference between night and day. The present invention as set forth in claim 1 reads on a trim panel including a single acoustical and thermal insulating layer of polymer fiber that is of multiple density in order to provide the desired insulating characteristics and necessary structural integrity while simultaneously being a nonlaminated. In contrast, the prior art Copperwheat patent fails to teach or suggest how the desired properties and multiple density can be provided in a single nonlaminated material. In fact, Copperwheat explicitly teaches providing a composite, laminate material of

multiple layers where the layers are selected with desired performance characteristics. In teaching a liner of multiple layers (often made from the same material but with different densities) the Copperwheat patent absolutely teaches away from the nonlaminated acoustical and thermal insulating layer utilized in the presently claimed trim panel.

It is well established that it is error to find obviousness, much less anticipation, where references "diverge from and teach away from the invention at hand". See *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, 311 (Fed. Cir. 1983) and *In re Fine*, 5 USPQ2d 1596, 1599 (Fed. Cir. 1988). In view of the fact that the Copperwheat reference actually teaches away from the present invention, the present invention is only within the skill of one of ordinary skill in the art, if the teachings of the Copperwheat reference are ignored and hindsight is utilized. It is improper to do this. See *Ex Parte Clapp*, 227 USPQ 972 (Bd. Pat. App. & Int. 1985).

In summary, the Copperwheat patent explicitly teaches that it is only possible to provide a trim panel insulator with the desired insulating and structural characteristics by laminating multiple layers of material with different properties together. In contrast, the present invention as set forth in claim 1 and claims 3-7 dependent thereon claims a trim panel insulator including a single acoustical and thermal insulating layer of multiple density to provide all the desired insulating and structural properties in the form of a nonlaminated. Such an approach was neither recognized nor considered possible by Copperwheat. Since the present invention avoids any potential for delamination characteristic of a liner constructed in accordance with the teachings of the Copperwheat patent, the present invention represents a significant advance in the art. There is no basis whatsoever to deny the present applicants patent protection for this novel

and unobvious invention as claimed. Accordingly, the rejection of claims 1 and 3-7 based upon the Copperwheat patent should be withdrawn and these claims should be formally allowed.

C. Claims 8-13 are clearly not anticipated by U.S. Patent 5,501,898 to Fottinger et al.

Claim 8 reads on a trim panel insulator comprising a single, nonlamineate acoustical and thermal insulating layer 12 of polymer fiber selected from a group consisting of polyester, a combination of polyester and fiberglass, polypropylene and any mixtures thereof. That single, nonlamineate acoustical and thermal insulating layer 12 also includes a nonlamineate skin 14 of polymer fiber along at least one face thereof. The skin 14 has a higher density than a remaining portion of the insulating layer 12.

The Examiner contends that the Fottinger et al. patent "can be a three layer composite" in which case the patent explains that all layers are "pressed and compacted into the intended shape" (see column 2, lines 16-17). Despite this processing, it must be appreciated that the Fottinger et al. patent explicitly teaches utilizing three distinct layers and these layers plainly have interfaces between them. The structure thus formed, or "part" as it is called in the patent, is essentially a laminated one.

This conclusion is buttressed by the examples of the three-layer "part" provided. In particular, example 2 of the Fottinger et al. patent describes using distinct cover layers and center layers of the "same fiber material" (a mixture of polyethylene terephthalate and polybutylene terephthalate) having different weights-per-unit area (250 g/m^2 and 500 g/m^2). (See, e.g., example 2, lines 21-32). Likewise, example 3 describes a

three layer "part" including the "outer layers according to example 2" and a central layer having a different weight-per-unit area. These teachings undoubtedly establish the use of separate and distinct layers to form the structure.

In contradistinction, claim 8 reads on a nonlamine insulating layer having a nonlamine skin where that skin has a higher density than a remaining portion of the insulating layer. Applicants' claimed arrangement is thus a unitary multidensity structure devoid of interfaces between laminate layers. As discussed extensively in the present specification, this lack of interfaces avoids the undesirable delamination characteristic of prior art trim structures such as the one taught in the Fottinger et al. patent.

Stated another way, the claimed multidensity, nonlamine structure is in no way equivalent to the multidensity laminate structure of the Fottinger et al. patent. In the case of the present invention, only one layer of material is provided and it is devoid of interfaces between layers. As such, any potential for delamination of the claimed invention is absolutely eliminated. In stark and total contrast, the liner structure of the Fottinger et al. patent includes interfaces between layers that have the potential for delamination. While both products may have the desired insulative and structural characteristics to be used as liners, only the present invention avoids potential failure from delamination. As such, the present invention represents a significant advance in the art.

It should also be appreciated that the Fottinger et al. patent actually teaches away from the present invention. More specifically, the Fottinger et al. patent explicitly teaches that different layers of the same material having different densities must be laminated together in order to provide a liner with the desired insulative and thermal insulating properties. In contrast,

the present invention as claimed achieves these goals with a single nonlaminated layer of material incorporating a unitary, higher density skin. There is no teaching or suggestion of this approach found in the Fottinger et al. patent.

As stated by the Court of Appeals for the Federal Circuit in *In re Donohue*, 766 F.2d 531, 534, 226 USPQ 619, 621 (Fed. Cir. 1985), “an anticipation rejection requires a showing that each limitation of the claim must be found in a single reference, practice, or device.” As further stated by that court in *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1574, 224 USPQ 409, 411 (Fed. Cir. 1984), the “exclusion of a claimed element from a prior art reference is enough to negate anticipation by that reference.” In the instant case, the Fottinger et al. reference does not disclose a single nonlaminated layer of polymer fiber including a high density skin. As such, the rejection under 35 U.S.C. §102(b) must fail under the prevailing legal standard.

Further, it should be appreciated that the concept of the present invention never even occurred to Fottinger. More specifically, 35 U.S.C. § 112 required Fottinger to “set forth the best mode contemplated by the inventor of carrying out his invention.” Fottinger's best mode for providing a liner with the desired thermal and insulating properties was to laminate together layers of the same material having different densities. This was his “best mode” for creating such a liner despite the fact that it is inherently susceptible to delamination along the interfaces between the layers.

In contrast to the approach disclosed in the Fottinger et al. reference, the present invention provides a trim panel insulator providing all the desired acoustical and thermal insulating characteristics in a nonlaminated that absolutely avoids potential failure as a result of delamination. In

explicitly teaching the provision of a liner with multiple layers, the Fottinger et al. reference explicitly teaches away from the present invention and absolutely provides no basis whatsoever for a rejection under 35 U.S.C. §103 must less an anticipation rejection under 35 U.S.C. § 102(b). As a result, the rejection based upon the Fottinger et al. patent is improper and should be withdrawn. Accordingly, claim 8 as well as claims 9-13 dependent thereon should be allowed.

D. Summary

In summary, Appellant has addressed and met every rejection set forth in the final Office Action. All of the rejected claims meet the statutory requirements for patentability. Upon careful review and consideration it is believed that the members of this Board of Appeals will agree with this proposition. Accordingly, it is respectfully requested that all outstanding rejections be reversed and that the present patent application be remanded to the Examiner with instructions for immediate allowance.

Respectfully submitted,
OWENS CORNING



Stephen W. Barns
Reg. No. 38,037

Date: 27 Feb 2004

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IX. APPENDIX

The claims on Appeal read as follows:

1. A trim panel insulator for a vehicle, consisting essentially of:
a single, multidensity nonlamineate acoustical and thermal insulating layer of polymer fiber selected from a group consisting of polyester, a combination of polyester and fiberglass, polypropylene and any mixtures thereof.
3. The insulator of claim 1, including a first facing layer over a first face of said acoustical and thermal insulating layer, said first facing layer being constructed from a material selected from a group consisting of polyester, rayon, polyethylene, polypropylene, ethylene vinyl acetate, polyvinyl chloride, fibrous scrim, metallic foil and mixtures thereof.
4. The insulator of claim 3, including a second facing layer over a second face of said acoustical and thermal insulating layer.
5. The insulator of claim 4, wherein said acoustical and thermal insulating layer has a weight per unit area of between about 20-130 g/ft².
6. The insulator of claim 5, wherein said acoustical and thermal insulating layer and said first facing layer are approximately the same color.

7. The insulator of claim 5, wherein said acoustical and thermal insulating layer, said first facing layer and said second facing layer are approximately the same color.

8. A trim panel insulator for a vehicle, comprising: a single, nonlamine acoustical and thermal insulating layer of polymer fiber selected from a group consisting of polyester, a combination of polyester and fiberglass, polypropylene and any mixtures thereof also including a nonlamine skin of polymer fiber along at least one face of said acoustical and thermal insulating layer, said nonlamine skin having a higher density than a remaining portion of said insulating layer.

9. The insulator of claim 8, including a first facing layer over a first face of said acoustical and thermal insulating layer, said first facing layer being constructed from a material selected from a group consisting of polyester, rayon, polyethylene, polypropylene, ethylene vinyl acetate, polyvinyl chloride, fibrous scrim, metallic foil and mixtures thereof.

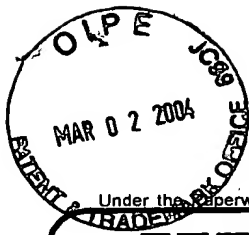
10. The insulator of claim 9, including a second facing layer over a second face of said acoustical and thermal insulating layer.

11. The insulator of claim 10, wherein said acoustical and thermal insulating layer has a weight per unit area of between about 20-130 g/ft².

12. The insulator of claim 11, wherein said acoustical and thermal insulating layer and said first facing layer are approximately the same color.

13. The insulator of claim 11, wherein said acoustical and thermal

insulating layer, said first facing layer and said second facing layer are approximately the same color.



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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

TOTAL AMOUNT OF PAYMENT (\$) 750.00

Complete if Known

Application Number	09/939,284
Filing Date	August 24, 2001
First Named Inventor	Tilton
Examiner Name	Wachtel
Group Art Unit	1764
Attorney Docket No.	24938A

METHOD OF PAYMENT

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any overpayments to:

Deposit Account Number: 50-0568
Deposit Account Name: Owens-Corning Fiberglas Technology, Inc.

- ☒ Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17
☐ Applicant claims small entity status. See 37 CFR 1.27

2. ☐ Payment Enclosed:

☐ Check ☐ Credit card ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
101 740	201 370	Utility filing fee	0.00
106 330	206 165	Design filing fee	0.00
107 510	207 255	Plant filing fee	
108 740	208 370	Reissue filing fee	0.00
114 160	214 80	Provisional filing fee	0.00

SUBTOTAL (1) (\$) 0.00

2. EXTRA CLAIM FEES

Extra Claims Fee from below Fee Paid
Total Claims 20** = 0 X 18.00 = 0.00
Independent Claims 3** = 0 X 86.00 = 0.00
Multiple Dependent 0 = 0.00

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
103 18	203 9	Claims in excess of 20
102 84	202 42	Independent claims in excess of 3
104 280	204 140	Multiple dependent claim, if not paid
109 84	209 42	** Reissue independent claims over original patent
110 18	210 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$) 0.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
105 130	205 65	Surcharge - late filing fee or oath	0.00
127 50	227 25	Surcharge - late provisional filing fee or cover sheet	0.00
139 130	139 130	Non-English specification	0.00
147 2,520	147 2,520	For filing a request for ex parte reexamination	0.00
112 920*	112 920*	Requesting publication of SIR prior to Examiner action	0.00
113 1,840*	113 1,840*	Requesting publication of SIR after Examiner action	0.00
115 110	215 55	Extension for reply within first month	0.00
116 400	216 200	Extension for reply within second month	420.00
117 920	217 460	Extension for reply within third month	0.00
118 1,440	218 720	Extension for reply within fourth month	0.00
128 1,960	228 980	Extension for reply within fifth month	0.00
119 320	219 160	Notice of Appeal	0.00
120 320	220 160	Filing a brief in support of an appeal	330.00
121 280	221 140	Request for oral hearing	0.00
138 1,510	138 1,510	Petition to institute a public use proceeding	0.00
140 110	240 55	Petition to revive - unavoidable	0.00
141 1,280	241 640	Petition to revive - unintentional	0.00
142 1,280	242 640	Utility issue fee (or reissue)	0.00
143 460	243 230	Design issue fee	0.00
144 620	244 310	Plant issue fee	0.00
122 130	122 130	Petitions to the Commissioner	0.00
123 50	123 50	Processing fee under 37 CFR 1.17(q)	0.00
126 180	126 180	Submission of Information Disclosure Stmt	0.00
581 40	581 40	Recording each patent assignment per property (times number of properties)	0.00
146 740	246 370	Filing a submission after final rejection (37 CFR § 1.129(a))	0.00
149 740	249 370	For each additional invention to be examined (37 CFR § 1.129(b))	0.00
179 740	279 370	Request for Continued Examination (RCE)	0.00
169 900	169 900	Request for expedited examination of a design application	0.00

Other fee (specify)

*Reduced by Basic Filing Fee Paid SUBTOTAL (3) (\$) 750.00

SUBMITTED BY

Name (Print/Type): Stephen W. Barns
Signature: [Signature]

Registration No. (Attorney/Agent): 38,037

Complete (if applicable)

Telephone: 740/321-7162
Date: 27 Feb 2004

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